

ABSTRACT

The invention is directed towards high performance switchable polarizers for optical projection displays. One embodiment of the invention is a switchable polarizer with (1) two conductive electrodes and (2) a liquid crystal material that is positioned between the two conductive electrodes. The electrodes apply a uniform electric field across the liquid crystal material when one of the electrodes is placed at a first potential and the other electrode is placed at a second potential different from the first potential. These two electrodes also heat the liquid crystal material when they conduct current. When equal currents are drawn through the electrodes, the electrodes apply a uniform electric field across the liquid crystal during a heating operation.